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| EXAMINER |
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PAPER

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/655,928
Filing Date: September 05, 2003
Appellant(s): GRUETZMACHER ET AL.

Davidson, Davidson & Kappel
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 2/05/2007 appealing from the Office action mailed 8/31/2006.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after the non-final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

| | | |
|--------------|-------|---------|
| US 6,649,266 | GROSS | 11-2003 |
| US 5,479,856 | WIRZ | 01-1996 |

Art Unit: 2854

US 4,427,766

MOHR

01-1984

US 6,824,882

BOARDMAN

11-2004

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

- Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Gross (US 6,649,266).

Gross teaches a microstructured carrier having a surface (Fig. 1; col. 1, lines 63-67), an ink repellent coating (col. 1, lines 65-67) on the surface of the microstructured carrier, the ink repellent coating including a derivative of an amphiphilic organic compound (col. 5, lines 48-53) having a polar region with an acidic character (col. 5, lines 15-17 and 45-50). Gross also teaches the microstructured carrier being metallic and having a natively oxidized surface, and the carrier having at least one substance selected from the group consisting of titanium, zirconium, molybdenum, nickel, copper, aluminum, chromium, iron, silver and gold (col. 3, lines 18-22).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

- Claims 1-4, and 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wirz (US 5,479,856) in view of Gross (US 6,649,266) and further in view of Mohr (US 4,427,766).

Wirz teaches a printing press having print substrate-contacting element (col. 3, lines 50-52) comprising a carrier having a surface, an ink-repellent coating on the surface of the carrier, the print substrate-contacting element being a back-pressure cylinder or a part of a surface thereof.

Wirz does not teach the carrier being microstructured, the ink repellent coating including a derivative of an amphiphilic organic compound having a polar region with an acidic character, the derivative of an amphiphilic organic compound being a hydroxamic acid derivative or a phosphonic acid derivative, the carrier being metallic and having a natively oxidized surface, and the carrier having at least one substance selected from the group consisting of titanium, zirconium, molybdenum, nickel, copper, aluminum, chromium, iron, silver and gold.

Gross teaches that repellent properties can be increased by microstructuring a surface having a repellent coating and discloses a microstructured carrier having an ink repellent coating (Fig. 1; col. 1, lines 63-67). Gross discloses that this technique can be

Art Unit: 2854

used on virtually any substance (col. 3, lines 13-15). Gross also teaches the microstructured carrier being metallic and having a natively oxidized surface, and the carrier having at least one substance selected from the group consisting of titanium, zirconium, molybdenum, nickel, copper, aluminum, chromium, iron, silver and gold (col. 3, lines 18-22).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the carrier of Wirz to be a microstructured carrier as taught by Gross, in order to increase the effectiveness of its ink repellency.

Mohr teaches an ink repellent coating including a derivative of an amphiphilic organic compound having a polar region with an acidic character, the derivative of an amphiphilic organic compound being a hydroxamic acid derivative or a phosphonic acid derivative (col. 17, lines 17-21).

It would have been obvious to one of ordinary skill in the art at the time of the invention to additionally modify Wirz to have the phosphonic acid derivative as taught by Mohr, in order to improve the ink repellent qualities of the coating.

As described above in the 102 rejection, the examiner interprets the Gross reference to disclose an ink repellent coating including a derivative of an amphiphilic organic compound having a polar region with an acidic character. In an effort to expedite prosecution, the examiner has also added the immediately preceding rejection which utilizes a teaching of an ink repellent coating including a derivative of an amphiphilic organic compound having a polar region with an acidic character in Mohr.

- Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wirz in view of Gross and Mohr as applied to claims 1-4, and 7-9 above, and further in view of Boardman (US 6,824,882).

Wirz in view of Gross and Mohr teaches the claimed invention except for the derivative of the amphiphilic organic compound being substituted in a nonpolar region so as to be both ink-repellent and water-repellent, and the derivative of the amphiphilic organic compound being fluorinated in a nonpolar region.

Boardman teaches a derivative of the amphiphilic organic compound being substituted in a nonpolar region so as to be both ink-repellent and water-repellent, and the derivative of the amphiphilic organic compound being fluorinated in a nonpolar region (col. 4, line 66 to col. 5, line 3).

It would have been obvious to one of ordinary skill in the art at the time of the invention to additionally modify Wirz to have the fluorinated phosphonic acid as taught by Boardman, in order to protect the print substrate contacting element by increasing the repellent action of the coating.

(10) Response to Argument

Rejections under 35 U.S.C. §102(b) over Gross

Claim 1 is rejected under 35 U.S.C. §102(b) as being anticipated by Gross. Appellant argues that Gross does not disclose a "derivative of an amphiphilic compound." The examiner respectfully disagrees. At column 5, lines 46-50, Gross

discloses that the coating can contain the organic compounds styrene, acrylic acid, and methacrylic acid. At column 5, lines 49-51, Gross further discloses that the organic compounds can additionally carry functional groups, such as OH groups. The presence of an OH group in a functionalized manner is indicative of amphiphilic and acidic properties. Therefore, Gross's disclosure that the organic compounds are functionalized with OH groups teaches that the organic compounds are amphiphilic and have a polar region with an acidic character.

Claim 1 recites that limitation "organic compound having a polar region with an acidic character." The examiner wishes to point out that this limitation does not require that the organic compound actually be acidic or an acid. The organic compounds in Gross are functionalized with OH groups; therefore their acidity constant (pK_a) is determinable. The pK_a value is used to determine the pH of a substance. Therefore, whether or not the pH is within the range of an acid, the organic compounds have a polar region with an "acidic character."

Appellant argues that "even if the groups yielded amphiphilic components, they were only components which undergo structural and functional changes in the condensation reaction and that there is no disclosure that the actual condensate is an amphiphilic organic substance. The examiner respectfully disagrees with Appellant's interpretation of Gross. At column 5, lines 35-42, Gross explicitly states that the organic compounds are present in the coating composition (col. 5, line 41).

Rejections under 35 U.S.C. § 103(a) over Wirz in view of Gross, and further in view of Mohr

Claims 1-4 and 7-9 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Wirz in view of Gross, and further in view of Mohr. Appellant argues that there is no motivation to combine Wirz in view of Gross because they are not in related technologies. "In order to rely on a reference as a basis for rejection of an applicant's invention, the reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned." MPEP 2141.01(a). Here, Gross is reasonably pertinent to the particular problem with which Appellant was concerned. Appellant's invention involves a technique for repelling ink. Most inks are essentially oil-based substances. Gross teaches a technique for repelling oils, which can be applied to any surface. See column 1, lines 64-67. Therefore, Gross would have logically commended itself to Appellant's attention in considering his problem.

Appellant also argues that there is no motivation to modify Wirz in view of Mohr since one of ordinary skill in the art would not have used printing plate teachings for the impression cylinder of Wirz. The examiner respectfully disagrees. Mohr discloses that treatment with polyvinylphosphonic acid can markedly improve the ink repellency of a material. See column 17, lines 17-21. Polyvinylphosphonic acid is a derivative of an amphiphilic compound and has a polar region with an acidic character. See Appellant's specification, paragraph [0013], lines 13-17. Mohr teaches that treatment with polyvinylphosphonic acid yields advantageous ink repellency properties. In view of this

teaching, one of ordinary skill in the art would have been inclined to apply the polyvinylphosphonic acid to any cylinder where ink repellency was desired.

Rejections under 35 U.S.C. § 103(a) over Wirz in view of Gross and Mohr, and further in view of Boardman

Claims 5 and 6 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Wirz in view of Gross and Mohr as applied to claims 1-4 and 7-9, and further in view of Boardman. With respect to claim 5, Appellant argues that there is no teaching in Boardman to make the acid ink-repellent. The examiner wishes to point out that the rejection does not contemplate making the acid of Boardman ink-repellent. The rejection does not attempt to modify secondary reference Boardman. The rejection, however, modifies Wirz in view of Gross and Mohr by substituting fluorine in a nonpolar region of the organic compound so that it is both ink repellent and water repellent. Boardman teaches that its fluorinated phosphonic acid is both ink (oil) repellent and water repellent. See column 1, lines 16-21 and 37-40, and column 4, line 66 to column 5, line 3.

With respect to claim 6, Appellant argues that there is no motivation to modify Wirz in view of Gross and Mohr. The examiner respectfully disagrees. Boardman teaches a derivative of an amphiphilic organic compound being fluorinated in a nonpolar region. The compound disclosed in column 1 of Boardman indicates that the compound is fluorinated in a nonpolar region. R2 is a perfluoroalkyl, which means that every carbon atom of the 'alkyl' group has at least two fluorine atoms bonded to it. Boardman discloses that coating with the fluorinated phosphonic acid results in low surface

Art Unit: 2854

energies such that materials can exhibit oil repellency and water repellency. One of ordinary skill in the art would have been inclined to research Boardman because of these advantages.

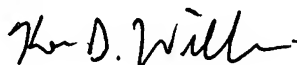
(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Kevin D. Williams



June 2, 2007

Conferees:

Judy Nguyen /JN/

Darren Schuberg



/Judy Nguyen/

Supervisory Patent Examiner, AU 2854